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JACKSON & CO., LLP 6114 LA SALLE AVENUE #507 OAKLAND, CA 94611-2802			EXAMINER YUAN, KATHLEEN S	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/608,784

Applicant(s)

STEINBERG ET AL.

Examiner

Kathleen S. Yuan

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15,23-33,41-55,63-73 and 81-84 is/are pending in the application.
- 4a) Of the above claim(s) 16-22,34-40,56-62,74-80 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15,23-33,41-55,63-73 and 81-84 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

The response received on 6/18/2007 has been placed in the file and was considered by the examiner. An action on the merit follows.

Response to Amendment

1. The amendments filed on 18 June 2007 have been fully considered. Response to these amendments is provided below.

Summary of Arguments/Amendments:

2. The applicant has amended several new limitations into the independent claims.

3. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

4. It is further noted that the applicant argues that the '751 publication processes videos and not still images, as amended. However, it is known that video images are comprised of still images. Krishnamurthy et al processes video images by processing individual frames (page 1, paragraph 0012), thus still images are processed as well as video image processing.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 2624

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims rejected under 35 U.S.C. 103(a) as being unpatentable over 1-6, 23, 24, 41-46, 63, 64, 81-84 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 20030123751 (Krishnamurthy et al) in view of U.S. Patent No. 6792135 (Toyama) in view of U.S. Patent No. 4970663 (Bedell et al).

Regarding claim 23, Krishnamurthy et al discloses A method of providing an option for generating one or more new still images using an original still image including a face, using individual frames in the processing of video, thus using a still image (page 1, paragraph 12), comprising (a) identifying one or more groups of pixels that correspond to a face, since the region of interest is of facial areas (pg. 1, pp. 0009) within the original acquired image, (b) selecting a portion of the original still image for processing to include the group of pixels, wherein the portion selected is the region of interest of the original image, thus including the group of pixels (fig. 2 items 220-230) in order to utilize the data for other purposes such as finding a higher resolution for that region or adjusting the bit allocations, wherein the selection is based on the identifying of the one or more groups of pixels that correspond to a face (the previous step of item 210, fig. 2) and at least on information relating to location and position of the face in the image, since the group of pixels that are selected are the pixels that are in the position of the located face; and (c) automatically providing an option for generating values of pixels of one or more new still images by optionally applying zooming in on the region of interest, thus creating a new image based on the region of interest, the selected portion, which includes the face because the region of interest includes the face (pg. 5, pp

Art Unit: 2624

0053). The new images differ from the original still image by including at least one group of pixels modified by a spatial parameter of the face, the proximity of the face to the camera, since the camera zooms in (pg. 5, pp 0053 and fig. 2, item 240). , thus making the face spatially closer in the new image, and modified by focus since the new image focuses in on the camera as compared with the one or more groups of pixels identified in the original still image.

Krishnamurthy et al does not disclose expressly that the region of interest is found by determining within the one or more groups of pixels (i) a relationship between two or more facial features, (ii) a structurally-invariant facial feature, or (iii) a correlation with a stored standard or learned face pattern, of the one or more groups of pixels, or combinations thereof, and that original image is digitally acquired. Krishnamurthy instead relies on using user inputs and voice detection within the region of interest (fig. 3).

Toyama discloses further finding a facial region of interest by finding within a group of pixels a relationship between two or more facial features (fig. 8 and col. 9, lines 37-47).

Krishnamurthy et al and Toyama are combinable because they are from the same field of endeavor, locating faces.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use a relational aspect to help find a face.

The suggestion/motivation for doing so would have been to provide a more automatic, efficient and reliable face detection method, especially in the case of illumination changes.

Krishnamurthy et al (as modified by Toyama) does not disclose expressly that the original image is digitally acquired.

It is obvious if not inherent to use digital images, and further, Bedell et al discloses that original images input are digital (col. 2, lines 38-40).

Krishnamurthy et al and Bedell et al are combinable because they are from the same field of endeavor, i.e. manipulating images.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use digital images.

The suggestion/motivation for doing so would have been to provide a simple, well-known straightforward way of representing values in an image.

Therefore, it would have been obvious to combine the method of Krishnamurthy et al with the relational template of Toyama and the digital images of Bedell to obtain the invention as specified in claim 23.

7. Claim 63 is rejected for the same reasons as claim 23. Thus, the arguments analogous to that presented above for claim 23 are equally applicable to claim 63. Claim 63 distinguishes from claim 23 only in that claim 23 claims a method and claim 63 claims a computer readable medium with a program. Toyama teaches further this feature (col. 4, line 62- col. 5, line 10).

Art Unit: 2624

8. Claim 1 and 41 are rejected for the same reasons as claims 23 and 63, respectively. Thus, the arguments analogous to that presented above for claims 23 and 63 are equally applicable to claims 1 and 41. Claims 1 and 41 distinguish from claims 23 and 63 only in that claims 1 and 41 are broader versions of claims 23 and 63, respectively. Since all the limitations are addressed in the previous rejections, prior art applies.

9. Regarding claim 2, Krishnamurthy et al discloses displaying the original image since a viewer interactively defines areas of the original image, thus it must be displayed (pg. 4, pp. 0046) and displaying the final image, a zoomed image (pg. 4, pp. 0046 and pg. 5, pp. 0061). Krishnamurthy also discloses displaying a transformation between these images by displaying the zoomed image (pg. 5, pp. 0061), thus displaying the enlarged change of the new image. Bedell et al discloses displaying another type of transformation between the images when disclosing that images can be dissolved from one image to another (col. 4, lines 19-20).

10. Regarding claim 3, Krishnamurthy discloses adjusting parameters of the transformation by zooming, thus adjusting the scale of the image, and adjusting the resolution as well which is another parameter (fig. 2, item 220 and 240). Bedell et al discloses adjusting parameters of the transformation when disclosing that dissolving can be adjusted using parameters such as a constant k over a number of frames (col. 4, lines 21-25).

11. Regarding claim 4, Bedell et al discloses that parameters of said transformation between images are being selected from a set of criteria including timing, the number of

frames it takes to dissolve and blending, the blending of the frames as one frame dissolves into another (col. 4, lines 21-25).

12. Regarding claim 5, Bedell et al discloses blending includes dissolving (col. 4, lines 19-20).

13. Regarding claim 6, Krishnamurthy discloses that the selected portion, the region of interest (fig. 2, item 210) comprises a zoom region and a new image comprising a zoomed image including the face enlarged by the zooming (fig. 2, item 240), since the face is included in the region of interest (pg. 1, pp. 0009).

14. Claims 42-46 are rejected for the same reasons as claims 2-6, respectively. Thus, the arguments analogous to that presented above for claims 2-6 are equally applicable to claims 42-46. Claims 42-46 distinguish from claims 2-6 only in that they have different dependencies, both of which have been previously rejected. Therefore, prior art applies.

15. Claims 24 and 64 are rejected for the same reasons as claim 6. Thus, the arguments analogous to that presented above for claim 6 are equally applicable to claims 24 and 64. Claims 24 and 64 distinguish from claim 6 only in that they have different dependencies, both of which have been previously rejected. Therefore, prior art applies.

16. Regarding claim 81, Krishnamurthy et al discloses that the one or more new still images comprise a plurality of new still images by showing there is a new zoomed image (fig. 2, item 240 as well as a composited image (fig. 2, item 250), thus producing a plurality of new still images.

Art Unit: 2624

17. Claims 82-84 are rejected for the same reasons as claim 81. Thus, the arguments analogous to that presented above for claim 81 are equally applicable to claims 82-84. Claims 82-84 distinguish from claim 81 only in that they have different dependencies, both of which have been previously rejected. Therefore, prior art applies.

18. Claims 7, 11, 25, 29, 47, 51, 65 and 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krishnamurthy et al in view of Toyama and Bedell et al, as applied to claims 6, 46, 24 and 64 above, and further in view of U.S. Patent No.6246779 (Fukui et al).

Regarding claim 7, Krishnamurthy et al (as modified by Toyama and Bedell et al) discloses all of the claimed elements as set forth above, and incorporated herein by reference.

Krishnamurthy et al (as modified by Toyama and Bedell et al) does not disclose expressly determining a point of rotation and an amount of rotation after which another image is automatically generated including a rotated version of the face.

Fukui et al discloses determining a point of rotation, a rotation pivot point (col. 7, line 31) and an amount of rotation theta (col. 7, line 40) after which another image is automatically generated including a rotated, transformed version of the face (col. 7, lines 41- col. 8, line 4).

Art Unit: 2624

Krishnamurthy et al (as modified by Toyama and Bedell et al) and Fukui et al are combinable because they are from the same field of endeavor, i.e. facial image processing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to rotate the face.

The suggestion/motivation for doing so would have been to provide a more user-friendly system by providing a means to obtain a normalized version of the face which can be used in more effectively in many applications such as image matching, or simply be used as a better fit to the display.

Therefore, it would have been obvious to combine the method of Krishnamurthy et al (as modified by Toyama and Bedell et al) with the rotation of Fukui et al to obtain the invention as specified in claim 7.

19. Claims 25, 47 and 65 are rejected for the same reasons as claim 7. Thus, the arguments analogous to that presented above for claim 7 are equally applicable to claims 25, 47 and 65. Claims 25, 47 and 65 distinguish from claim 7 only in that they have different dependencies, both of which have been previously rejected. Therefore, prior art applies.

20. Regarding claim 11, Fukui et al discloses a step of determining a point of rotation, a rotation pivot point (col. 7, line 31) and an amount of rotation θ (col. 7, line 40) such that the generating of the values of the pixels automatically generates a new image, a transformed version of the face, including a rotated version of the face by

Art Unit: 2624

rotating the image about said point of rotation by said amount of rotation (col. 7, lines 41- col. 8, line 4).

21. Claim 29 is rejected for the same reasons as claim 11. Thus, the arguments analogous to that presented above for claim 11 are equally applicable to claim 29. Claim 29 distinguishes from claim 11 only in that claim 29 provides an option to generate a new image. Krishnamurthy teaches further this feature, i.e. providing an option to transform the image any way the user wishes (fig. 2, items 230-250 and pg. 5, paragraph 0053).

22. Claims 51 and 69 are rejected for the same reasons as claims 11 and 29, respectively. Thus, the arguments analogous to that presented above for claims 11 and 29 are equally applicable to claims 51 and 69. Claims 51 and 69 distinguish from claims 11 and 29 only in that they have different dependencies, both of which have been previously rejected. Therefore, prior art applies.

23. Claims 8, 9, 14, 15, 26, 27, 32, 33, 48, 49, 54, 55, 66, 67, 72 and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krishnamurthy et al in view of Toyama and Bedell et al, as applied to claims 6, 46, 24 and 64 above, and further in view of U.S. Patent Application Publication No. 20030142209 (Yamazaki et al).

Regarding claim 8, Krishnamurthy et al (as modified by Toyama and Bedell et al) discloses all of the claimed elements as set forth above, and incorporated herein by reference.

Krishnamurthy et al (as modified by Toyama and Bedell et al) does not disclose expressly (d) determining one or more further new images each including a new group of pixels corresponding to the face; and (e) automatically panning using the one or more further new images.

Yamazaki et al discloses determining one or more further new images each including a new group of pixels corresponding to the face by obtaining more images over time that include the face (fig. 3, item 3-3 to 3-5). And automatically panning using one or more further new images, as can be seen in items 3.3 to 3.5, since the person moves and the camera keeps the person in the center, thus panning (pg. 2, pp. 21).

Krishnamurthy et al (as modified by Toyama and Bedell et al) and Yamazaki et al are combinable because they are from the same field of endeavor, i.e. facial image processing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to pan in new images.

The suggestion/motivation for doing so would have been to provide a more user-friendly system by automatically following an object of interest instead of manually following, and to increase speed by following the object instead of asking the user to find the object when it moves.

Therefore, it would have been obvious to combine the method of Krishnamurthy et al (as modified by Toyama and Bedell et al) with Yamazaki et al to obtain the invention as specified in claim 8.

Art Unit: 2624

24. Regarding claim 14, Yamazaki et al discloses generating of the values by generating one or more new images (fig. 2, items 3-3 to 3-5) each including a new group of pixels corresponding to the face, the face being shown in fig. 2, items 3-3 to 3-5 and the new group of pixels being the changes in the face in the new images, and further comprising the step of generating a panning sequence (pg. 2, pp. 21) which keeps the object of interest in the center, comprising a sequence of at least two of the original images (fig. 3, items 3-2 to 3-3) and the one or more new images (fig. 3-4).

25. Regarding claim 9, Yamazaki et al discloses each of the one or more further new images including pixels corresponding to features different from at least one other image of the one or more further new images, such features being the differences in the image from movement, such as the movement of the door and the pixels corresponding to the movement (fig. 3, items 3-2 to 3-5).

26. Claim 26 is rejected for the same reasons as claim 8. Thus, the arguments analogous to that presented above for claim 8 are equally applicable to claim 26. Claim 26 distinguishes from claim 8 only in that claim 26 provides options for continuing processing. Krishnamurthy teaches further this feature, i.e. providing an option to transform the image any way the user wishes (fig. 2, items 230-250 and pg. 5, paragraph 0053).

27. Claim 32 is rejected for the same reasons as claim 14. Thus, the arguments analogous to that presented above for claim 14 are equally applicable to claim 32. Claim 32 distinguishes from claim 14 only in that claim 32 provides options for continuing processing. Krishnamurthy teaches further this feature, i.e. providing an

Art Unit: 2624

option to transform the image any way the user wishes (fig. 2, items 230-250 and pg. 5, paragraph 0053).

28. Claims 48, 66, 54 and 72 are rejected for the same reasons as claims 8, 26, 14 and 32, respectively. Thus, the arguments analogous to that presented above for claims 8, 26, 14 and 32 are equally applicable to claims 48, 66, 54 and 72. Claims 66, 54 and 72 distinguish from claims 26, 14 and 32 only in that they have different dependencies, both of which have been previously rejected. Claim 48 differs only in that it has an error addressed above in the claim objection; all limitations have been discussed. Therefore, prior art applies.

29. Claims 15, 27, 33, 49, 55, 67 and 73 are rejected for the same reasons as claim 9. Thus, the arguments analogous to that presented above for claim 9 are equally applicable to claims 15, 27, 33, 49, 55, 67 and 73. Claims 15, 27, 33, 49, 55, 67 and 73 distinguish from claim only in that they have different dependencies, all of which have been previously rejected. Therefore, prior art applies.

30. Claims 10, 12, 13, 28, 30, 31, 50, 52, 53, 68, 70, 71 rejected under 35 U.S.C. 103(a) as being unpatentable over Krishnamurthy et al in view of Toyama and Bedell et al as applied to claims 6, 46, 24 and 64 above, and further in view Yamazaki et al, as applied to claims 8, 48, 26, and 66 and Fukui et al as applied to claims 11, 51, 29 and 69.

Regarding claim 10, Krishnamurthy et al (as modified by Toyama and Bedell et al and Yamazaki et al) discloses all of the claimed elements as set forth above, and incorporated herein by reference.

Art Unit: 2624

Krishnamurthy et al (as modified by Toyama, Bedell et al and Yamazaki et al) does not disclose expressly determining a point of rotation and an amount of rotation after which another image is automatically generated including a rotated version of the face.

Fukui et al discloses determining a point of rotation, a rotation pivot point (col. 7, line 31) and an amount of rotation θ (col. 7, line 40) after which another image is automatically generated including a rotated, transformed version of the face (col. 7, lines 41- col. 8, line 4).

Krishnamurthy et al (as modified by Toyama, Bedell et al and Yamazaki et al) and Fukui et al are combinable because they are from the same field of endeavor, i.e. facial image processing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to rotate the face.

The suggestion/motivation for doing so would have been to provide a more user-friendly system by providing a means to obtain a normalized version of the face which can be used in more effectively in many applications such as image matching, or simply be used as a better fit to the display.

Therefore, it would have been obvious to combine the method of Krishnamurthy et al (as modified by Toyama, Bedell et al and Yamazaki et al) with Fukui et al to obtain the invention as specified in claim 10.

31. Claims 28, 50 and 68 are rejected for the same reasons as claim 10. Thus, the arguments analogous to that presented above for claim 10 are equally applicable to

Art Unit: 2624

claims 28, 50 and 68. Claims 28, 50 and 68 distinguish from claim 10 only in that they have different dependencies, all of which have been previously rejected. Therefore, prior art applies.

32. Regarding claim 12, Krishnamurthy et al (as modified by Toyama, Bedell et al and Fukui et al) discloses all of the claimed elements as set forth above, and incorporated herein by reference. Krishnamurthy et al (as modified by Toyama, Bedell et al and Fukui et al) does not disclose expressly (d) determining one or more further new images each including a new group of pixels corresponding to the face; and (e) automatically panning using the one or more further new images. Yamazaki et al discloses determining one or more further new images each including a new group of pixels corresponding to the face by obtaining more images over time that include the face (fig. 3, item 3-3 to 3-5). And automatically panning using one or more further new images, as can be seen in items 3.3 to 3.5, since the person moves and the camera keeps the person in the center, thus panning (pg. 2, pp. 21). Krishnamurthy et al (as modified by Toyama, Bedell et al and Fukui et al) and Yamazaki et al are combinable because they are from the same field of endeavor, i.e. facial image processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to pan in new images. The suggestion/motivation for doing so would have been to provide a more user-friendly system by automatically following an object of interest instead of manually following, and to increase speed by following the object instead of asking the user to find the object when it moves. Therefore, it would have been obvious

Art Unit: 2624

to combine the method of Krishnamurthy et al (as modified by Toyama, Bedell et al and Fukui et al) with Yamazaki et al to obtain the invention as specified in claim 12.

33. Claim 30 is rejected for the same reasons as claim 12. Thus, the arguments analogous to that presented above for claim 12 are equally applicable to claim 30.

Claim 30 distinguishes from claim 12 only in that claim 30 provides options for continuing processing. Krishnamurthy teaches further this feature, i.e. providing an option to transform the image any way the user wishes (fig. 2, items 230-250 and pg. 5, paragraph 0053).

34. Claims 52 and 70 are rejected for the same reasons as claims 12 and 30, respectively. Thus, the arguments analogous to that presented above for claims 12 and 30 are equally applicable to claims 52 and 70. Claims 52 and 70 distinguish from claims 12 and 30 only in that they have different dependencies, both of which have been previously rejected. Therefore, prior art applies.

35. Claims 13, 31, 53 and 71 are rejected for the same reasons as claim 9. Thus, the arguments analogous to that presented above for claim 9 are equally applicable to claims 13, 31, 53 and 71. Claim 13, 31, 53 and 71 distinguish from claim 9 only in that they have different dependencies, all of which have been previously rejected.

Therefore, prior art applies.

Conclusion

36. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 20030123713.

Art Unit: 2624

37. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kathleen S. Yuan whose telephone number is (571)272-2902. The examiner can normally be reached on Monday to Thursdays, 9 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (571)272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2624

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KY
8/16/2007


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